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**Nieters et al.**

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(54) **SYSTEM AND METHOD TO MONITOR CHARACTERISTICS OF AN OPERATING FLUID IN A PROCESS LINE**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57)

**ABSTRACT**

A system that provides localized monitoring of characteristics of instrument gas that a valve assembly uses to modulate the flow of a working fluid. The system includes components that generate an output in response to, for example, particulates, humidity, temperature, and other characteristics of the instrument gas. Processing of data and information in the output can help to diagnose changes in the characteristics of the instrument gas. This diagnosis is useful to predict a time frame during which the valve assembly and components associated therewith might fail and/or require maintenance before the valve assembly manifests significant problem that are detrimental to a process line.

**18 Claims, 11 Drawing Sheets**

